

MARKED-UP VERSION OF THE AMENDED CLAIMS

1. (currently amended) An improved arrangement to configure construction components characterised on being constituted as from a combination of plastic and metal, consisting of a plastic enveloping casting molded around and adhering to and surrounding an internal metallic structure of a certain thickness and having a peripheral part of the internal metallic structure, said plastic enveloping casting also being molded around and adhering to and surrounding and incorporating a metallic laminate or plate disposed substantially parallel to the peripheral part of the internal metallic structure and disposed at a closely spaced distance from the peripheral part of the internal metallic structure not larger than twice the thickness of the internal metallic structure for reinforcement in bolted joints.

2. (cancelled) An improved arrangement to configure construction components, according to the first claim, characterised in that a resulting combination may adopt a form of rails and beams (1), pipes (10), rods (20), channels (30), angles (40), flatbars (50), "Z" (60), profiles (70), beams (80), corrugated plates (90), smooth plates (100) or structures (110).

3. (previously presented) A construction component comprising an internal metallic structure exhibiting a planar face;
metallic reinforcement rods passing through the metallic structure;
a metallic laminate disposed parallel to the planar face;
a plastic enveloping casting molded around, surrounding, and adhering to the internal metallic structure and the metallic laminate;
bolted joints passing through the metallic laminate, wherein the metallic laminate furnishes a reinforcement.

4. (cancelled) The construction component according to claim 3, wherein the construction component assumes a form of rails and beams (1), pipes (10), or rods (20).

5. (previously presented) The construction component according to claim 3, wherein the construction component assumes a form of channels (30), angles (40), flatbars (50), or "Z"-shapes (60).

6. (previously presented) The construction component according to claim 3, wherein the construction component assumes a form of profiles (70), or beams (80).

7. (previously presented) The construction component according to claim 3, wherein the construction component assumes a form of corrugated plates (90), smooth plates (100) or structures (110).

8. (previously presented) An I-beam structure comprising a metallic I-beam having an upper face and having a lower face;

a first metallic laminate disposed above the upper face at a distance;

a second metallic laminate disposed below the lower face at a second distance;

a cast plastic envelope molded around and surrounding the metallic I-beam, the first metallic laminate, and the second metallic laminate and having an outer shape of an I-beam.

9. (previously presented) The I-beam structure according to claim 8 wherein the cast plastic envelope comprises a member of the group consisting of phenoplastes, polycarbonate, polyethylene, resins and mixtures thereof, and further comprising metallic reinforcement rods disposed at outer edges and at inner edges of the metallic I-beam..

10. (previously presented) The construction component according to claim 3 wherein the internal metallic structure is of T-shape, and wherein the planar face is the top of the T .

11. (previously presented) The construction component according to claim 3 wherein the internal metallic structure is of T-shape, and wherein the plastic enveloping casting increases in thickness from the bottom of the stem of the T to the top of the stem of the T.

12. (previously presented) A construction component comprising
an internal metallic structure incorporating metallic reinforcement rods and exhibiting a planar face;
a metallic laminate plate disposed in front of the planar face;
a plastic enveloping casting molded around, surrounding, and adhering to the internal metallic structure and the metallic laminate plate.

13. (currently amended) The construction component according to claim 12 wherein the internal metallic structure includes a channel.

14. (previously presented) The construction component according to claim 12 wherein the internal structure is of a Z-shaped cross-section.

15. (previously presented) The construction component according to claim 12 wherein the internal structure is profile having a rectangular cross-section.

16. (previously presented) The construction component according to claim 12 wherein the internal structure is made of a corrugated steel G-40 having a resistance value of $2,800\text{Kg/cm}^2$.

17. (previously presented) An improved arrangement to configure construction components comprising

an internal metallic structure forming a profile having a direction including metallic reinforcing rods defining end edges in the direction of the profile and junction edges defining internal junctions of the profile;

a plurality of plate shaped metallic structures connecting the metallic reinforcing rods such that each metallic reinforcing rod is attached to one plate shaped metallic structure or attached to three plate shaped metallic

structures;

a metallic laminate plate disposed on the outside of one reinforcing rod attached to three plate shaped metallic structures and disposed on the outside of two of the three plate shaped metallic structures attached to the one reinforcing rod for reinforcement in bolted joints; and

a plastic enveloping casting surrounding the internal metallic structure such that the internal metallic structure is embedded in the plastic enveloping casting by being molded with the plastic of the enveloping casting.

18. (previously presented) The improved arrangement according to claim 17 for forming an I-beam structure wherein

the metallic reinforcement rods are furnished as a first three metallic reinforcement rods disposed in parallel at equal distances from each other, defining a first middle metallic reinforcement rod and two first outer metallic reinforcement rods, and spanning a first plane and as a second three metallic reinforcement rods disposed in parallel at said equal distances from each other, defining a second middle metallic reinforcement rod and two second outer metallic reinforcement rods, and spanning a second plane, wherein the first plane is disposed parallel to the second plane and wherein the first three reinforcement rods project onto the second three metallic

reinforcement rods in a projection from the first plane in a direction perpendicular onto the second plane;

wherein the plurality of plate shaped metallic structures includes

first two plate shaped metallic structures disposed between the first middle metallic reinforcing rod and the respective two first outer metallic reinforcing rods,

second two plate shaped metallic structures disposed between the second middle metallic reinforcing rod and the respective two second outer metallic reinforcing rods,

a connecting plate shaped metallic structure disposed between the first middle metallic reinforcing rod and the second middle reinforcing rod thereby forming a metallic I-beam;

wherein the metallic laminate plate is disposed neighbouring to that side of the first two plate shaped metallic structures disposed relative remote to the connecting plate shaped metallic structure, and further comprising

a second metallic laminate plate is disposed neighboring to that side of the second two plate shaped metallic structures disposed relative remote to the connecting plate shaped metallic structure,

wherein a cast plastic envelope is molded around and surrounds the metallic I-beam, the first metallic laminate plate and the second metallic laminate

plate and said cast plastic envelope having an outer shape of an I-beam.

19. (new) The construction component according to claim 12 wherein the plastic of the plastic enveloping casting is a member selected from the group consisting of thermoplastic, duraplastic, phenoplastic, polycarbonate, ABS, polyethylene and resins.

20. (previously presented) The construction component according to claim 12 wherein the internal metallic structure is selected from the group of forms consisting of rails, beams, channels, angles, flatbars, "Z"-shaped profiles, profiles, corrugated plates, smooth plates and flat structures.

21. (new) The construction component according to claim 12 wherein the internal structure is a member selected from the group consisting of rods, electrowelded meshes, reinforcements, frames, shears, zinc plates, aluminium plates, steel tolas, wires, and cables.

22. (new) The construction component according to claim 12 wherein the internal structure is made of a corrugated steel G-60 having a resistance value of about 4,200Kg/cm².

REMARKS

Claims 1, 3, 5 to 18 continue to be in the case.

New claims 19 through 22 are being submitted.

Claim 1 is being amended based on Figs. 2 and 3.

Claim 13 is amended to furnish a proper antecedent basis.

New claim 19 is based on the specification, page 4, lines 11 through 13.

New claim 20 is based on the specification, page 5, lines 22 through 25.

New claim 21 is based on the specification, page 4, lines 21 through 23.

New claim 22 is based on the specification, page 4, lines 19 through 21.

The Office Action mailed March 16, 2004 states that, the drawings filed 1/20/04 of paper no. 13 are objected to because they contain text. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The complementary drawings with Figs 6 through 15 filed on 1/20/2004 have the best intention to present a more illustrative and explicit graphic description. Applicant is herewith canceling the drawings filed 1/20/04 with Figs. 6 through 15.

The drawings stand objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the new drawings 6-15. not mentioned in the description. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) and drawings in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Applicant is herewith canceling the drawings filed 1/20/04 with Figs. 6 through 15.

The Office Action refers to Claim Rejections - 35 USC § 102

Claim 1 stands rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,505,454 to Dingler.

Regarding claim 1, Dingler discloses a construction component having an internal metallic element (fig. 2: 14) surrounded and encased by plastic (fig. 2: 13 & 18). Dingler also discloses a metallic plate (fig. 2: 15) which is also surrounded and encased in plastic (fig. 2: 13 & 18).

Applicant is now amending claim 1 to further specify that a metallic laminate or plate is disposed substantially parallel to the peripheral part of the internal metallic structure and disposed at a closely spaced distance from

the peripheral part of the internal metallic structure not larger than twice the thickness of the internal metallic structure

This additional limitation is intended to distinguish claim 1 from what is shown in the reference Dingler. The reference Dingler says in column 4, lines 42 through 44; "The inner layer 13 of the structural member 11 is bounded by an upper layer 14 and a lower layer 15." Fig. 2 of the Dingler reference shows that the layers 14 and 15 are not disposed a closely spaced distance as now claimed in claim 1. Fig. 2 of the Dingler reference also shows that the layers 14 and 15 are not disposed a distance not larger than twice the thickness of the layer 14 as would be required by amended claim 1. Thus claim 1 as amended clearly distinguishes from the reference Dingler.

The applicant wishes to have presented the following further considerations:

The improved disposition for the constructive configuration of elements presented with the present invention shows notable differences relative to the proposal of the reference Dingler.

The present invention is associated with the reinforcement of the pieces or elements with a structure or interior armor of metal (as a skeleton or support) absorbed inside of an emptied plastic, unique and compact that

gives a definitive form and a mass or body (see text and drawings). The incorporation of one sheet, plate or metal mesh that the claims of the present application require, has the function of increasing cohesion of the plastic material that gives support, that helps to the plastic alone not to tear or quarter in the union with other elements.

The reference Dingler proposes the configuration of the constructive elements as a stratified system (sandwich type as the reference Dingler mentions). Each stratified system according to the Dingler reference is formed by plastic layers of different properties, to complete with elastic exigencies determinate (interior frothy plastic 20% to 60% and exterior reinforced layers) (see text and drawings). The plastic reinforcement according to the reference Dingler can involve adding a load filler(talc, glass fiber, additives).

The metal reinforcement according to the reference Dingler can be acquired by using sheet of lightweight aluminum (alloy) or fabric.

With one primer of one layer of adhesive material (glue), sparse on the face of the aluminum sheet to be glued with the interior and exterior plastic sheet, and give it better stiffness to the stratified system according to the Dingler reference.

The plastic and metal elements in the present invention are not more than the name of a medium or generic material to create or to form a thing. The polymeric and metal family has characteristic and very extensive properties.

The words that we use, such as (internal reinforcement of metal), (plastic backfill or emptied), (to cover, to stick, to contain, to tight, to slide, to join, to confine, to hold, to press, etc.) are words to explain or to describe ideas or proposals. The use of the same term by two or more people to explain separately each individual idea, can give an understanding that one thing and another are similar or, respectively, in fact present notable differences.

When we talk about to build, to manufacture, to produce materially an idea with a useful end, then the notion of feasibility and possibility of production in series, techniques, and facility of the constructive processes, functionality, improvements, utility, forms, and practical dimensions, facilities on their application and use etc. come to our minds..

The Office Action refers to Allowable Subject Matter.

Claims 3 and 5-18 stand allowed.


The applicant gratefully acknowledges the indication of allowability of claims 3 and 5 through 18.

Reconsideration of all outstanding rejections is respectfully requested.

All claims as presently submitted are deemed to be in form for allowance and an early notice of allowance is earnestly solicited.

Respectfully submitted,

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Reg.No. 28559; Docket No.: GES201A5

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